Video Transcript

Title: Radiation Principles

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When a person is near a source of radiation, some type of radioactive material, he or she can be exposed to the radiation emitted by this source. However, he or she does not become contaminated.

One way to think about exposure is to think about X-rays. When a person has a chest X-ray, he or she is exposed to radiation, but does not become contaminated with radioactive material.

A person can reduce his or her exposure to radiation, if he or she is shielded in some ways from the radiation, for example, if the person is behind a concrete wall, or if the radioactive source is inside of a lead container.

In order to become contaminated, radioactive material must get on the skin, or clothing, or inside of the body. For example, if radioactive material is incorporated into a dirty bomb, a conventional explosive, such as dynamite, that has been laced with radioactive material, then people could become contaminated when the device is detonated. Radioactive material on the outside of the body is called external contamination. When a person becomes externally contaminated, simply removing the clothing can remove up to 90% of the contamination. Gently washing the skin and the hair can remove most of the remaining contamination.

If a person ingests or inhales radioactive material, it can become incorporated in the organs of the body. This is called internal contamination. When a person is internally contaminated, depending on the type of radioactive material with which they were contaminated, certain medications can be administered to speed up the rate at which the radioactive material is eliminated from the body. Such medications include Prussian blue and DTPA.

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For inquiries regarding this video, please contact:

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